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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,153	11/21/2003	Ronald Barrett	NR8315US	2129
22203	7590	09/27/2005	EXAMINER	
KUSNER & JAFFE HIGHLAND PLACE SUITE 310 6151 WILSON MILLS ROAD HIGHLAND HEIGHTS, OH 44143			KASTLER, SCOTT R	
			ART UNIT	PAPER NUMBER
			1742	

DATE MAILED: 09/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,153

Applicant(s)

BARRETT ET AL.

Examiner

Scott Kastler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15, and 18-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over either of Moniot or Bernsmann in view of Kaldon et al and further in view of any of Japanese'693, Thompson et al or GB'034. Both of Moniot and Bernsmann teach an injection lance including a plurality of connected body sections (16 in Moniot (which are stated to be "sections" (plural) at col. 1 lines 60-70 for example) and sections 23 in Bernsmann), along with an end section (18 in Moniot and 18 in Bernsmann) with two center pipes (12 and 20 in Moniot and 10 and 11 in Bernsmann) where the end sections include a nozzle assembly including a porous nozzle tip (34 in Moniot and 17 in Bernsmann), thereby showing all aspects of the above claims except the use of the instantly recited refractory composition for the refractory shells where the refractory is formed at least partially by isopressing and partially by casting (with respect to instant claim 19) or the use of anchoring members attached to the outer surface of the center pipe and extending into the refractory shell. Kaldon et al teaches a refractory composition for use as refractory sleeves around metallurgical injection lances where the refractory may be isopressed or cast (see col. 3 lines 55-60 for example) and where the refractory composition meets the requirements of the instant claims (see example 1 for example), where the refractory of Kaldon et al is stated to provide improved service life in molten metal and slag environments. Because improved service life would also be desirable in the lances of both of

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Moniot and Bernsmann, motivation to employ the refractory shell material of Kaldon et al in either isopressed and cast form, as the refractory shell required by both of Moniot and Bernsmann, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. With respect to the attachment members, each of Japanese'693 (1), Thompson et al (2) and GB'034 (4) teach that at the time the invention was made it was known in the injection lance art to employ attachment members attached to a center lance pipe and extending into a surrounding refractory jacket in order to more securely affix the refractory to the lance. Because secure refractory attachment to the lance would also be desirable in the lances described by each of Moniot and Bernsmann, motivation to additionally include attachment members for securely affixing the refractory shell to the injection lance center pipe, as taught to be desirable by each of Japanese'693, Thompson et al and GB'034, in the lances of either of Moniot or Bernsmann, with refractory shells of the type and composition taught to be advantageous by Kaldon et al, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Harbison-Walker blueprints (hereafter referred to as Harbison-Walker) in view of Kaldon et al and further in view of any of Japanese'693, Thompson et al or GB'034. Harbison-Walker teaches, in the drawings, an injection lance including refractory shell sections surrounding central pipes where a portion of the shell is isopressed, showing all aspects of the above claims except use of the instantly recited refractory composition for the isopressed refractory or the use of anchoring members attached to the outer surface of the center pipe and extending into the refractory shell.

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As applied above, Kaldon et al teaches a refractory composition suitable for isopressing as a refractory shell composition in a metallurgical injection lance which meets all composition requirements of the instant claims and which provides improved service life for the lance. Because improved service life would also be desirable in the lance of Harbison-Walker, motivation to employ the refractory shell material of Kaldon et al as the refractory shell required by Harbison-Walker, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made. With respect to the attachment members, each of Japanese'693 (1), Thompson et al (2) and GB'034 (4) teach that at the time the invention was made it was known in the injection lance art to employ attachment members attached to a center lance pipe and extending into a surrounding refractory jacket in order to more securely affix the refractory to the lance. Because secure refractory attachment to the lance would also be desirable in the lances described by Harbison-Walker, motivation to additionally include attachment members for securely affixing the refractory shell to the injection lance center pipe, as taught to be desirable by each of Japanese'693, Thompson et al and GB'034, in the lance of Harbison-Walker, with a refractory shell of the type and composition taught to be advantageous by Kaldon et al, would have been a modification obvious to one of ordinary skill in the art at the time the invention was made.

Response to Arguments

Applicant's arguments, see pages 7-10, filed on 8/1/2005, with respect to the rejections of newly amended claims 1-19 and new claims 20-26 under 35 USC 103 have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon

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further consideration, a new ground(s) of rejection is made in view of the newly added references to Japanese'693, Thompson et al and GB'034 showing the features added to the instant claims by the amendment filed on 8/1/2005.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

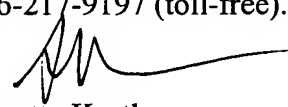
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Kastler whose telephone number is (571) 272-1243. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Scott Kastler
Primary Examiner
Art Unit 1742

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